U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-176-EA

CASEFILE/PROJECT NUMBER (optional)**:**

- APDs for wells 8816B and 8815C at location P18 397 (E-P006) - Lease C-65559
- APDs for wells 8806C and 8803B at location F19 397 (E-P030) - Lease C-65559
- APDs for wells 8804B and 8805C at location D30 397 (E-P018) - Lease C-65559
- Proposed two wells at location E-P019 - Lease C-60749
- Proposed two wells at location E-P022 - Lease C-65569
- Trunk Pipeline and Compressor Station - COC68052
- Re-alignment of Dry Ridge Road (County Road 69) - COC68202

PROJECT NAME: EnCana Eureka/Double Willow Exploration - Dry Ridge

LEGAL DESCRIPTION: T3S, R97W, Sec. 18-19, 30
T3S, R98W, Sec. 25, 36
T4S, R98W, Sec. 1-2, 9-11, 15

APPLICANT: EnCana Oil & Gas (USA) Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: This environmental assessment (EA) addresses all currently proposed and potential facilities associated with the exploration of the oil and gas resources in the area of Dry Ridge (Figure 1) by EnCana Oil and Gas (USA) Inc. (EnCana). Dry Ridge refers to the ridge that extends from Black Sulphur Creek and Piceance Creek at its northern end, with Hunter Creek on the east and Dry Gulch on the west, progressing south roughly to the Garfield County line, T4S, R98W, Section 15 (See Figure 2). This project area starts .43 miles southwest of the Eureka Unit boundary and covers about 7.2 miles.

The facilities that are planned for the project area are described below. All of the proposed or potential well pad sites were included in EnCana's on-site Group B (May 4, 2004). Those facilities for which Applications for Permit to Drill (APDs) or Right-of-Way (ROW) Total disturbance for the five well pads and associated access roads and pipelines would be 18.1 acres. Applications have been received are so indicated.

- Well Pad P18 397 -- APDs for two wells, 8816B and 8815C, have been received for this well pad, located at T3S, R97W, NESESE, Sec. 18. During the on-site and survey of this location, it was referred to as the E-P006. Included with this well pad would be a new 500 foot access road and a pipeline, to be buried in the road.

- Well Pad F19 397 -- APDs for two wells, 8806C and 8803B, have been received for this well pad, located at T3S, R97W, SWSENW, Sec. 19. During the on-site and survey of this location, it was referred to as the E-P030. Because this pad would be located immediately beside County Road 69 and the adjacent trunk pipeline, no access road would be required.

- Well Pad D30 397 -- APDs for two wells, 8804B and 8805C, have been received for this well pad, located at T3S, R97W, NWNWNW, Sec. 30. During the on-site and survey of this location, it was referred to as the E-P018. Included with this well pad would be a new 750 foot access road and a pipeline, to be buried in the road.

- Other planned locations for which APDs have not yet been received:

Well Pad Site	On-Site ID	Location	Access Road Length
J35 397	E-P019	T3S, R97W, NWSE Sec. 35	500 feet
M36 397	E-P022	T3S, R97W, SWSW Sec. 36	0.0 feet

- Road re-alignment -- To reduce the grade on a portion of Rio Blanco County Road 69 in T4S, R98W, Sec. 9, 15-16, the applicant proposes to re-align 0.43 miles of the county road disturbing 2.6 acres. (ROW application serialized as COC68202.) Rio Blanco County is the applicant.

- Compressor station -- Construction of a natural gas compressor station on 20 acres near well pad F19 397 in T3S, R97W, Sec.19. The size and capacity of the compressor station have not been specified but it is assumed eventually to be equipped with engines operating at up to 8,500 horsepower. (ROW application serialized as COC68052.)

- Trunk pipeline -- The proposed trunk line construction along County Road 69 has a total length of 38,155 feet (7.2 miles), a disturbance width of 60 feet and an assumed 16" diameter, from well pad P18 397 to the compressor station and thence to a tie-in with a gathering line in T4S, R98W, Sec. 9 (the Rio Blanco County Road 69 tie-in). The entire length of the pipeline would be adjacent to the west and then north side of the county road, including the re-alignment, (ROW application serialized as COC68052 with the compressor station) with a total disturbance of 53 acres.

All new surface disturbances for access roads, pipelines and well pads would be located on federal lands administered by BLM. Total initial disturbance is estimated at 93 acres – 53 acres for the trunk pipeline, 16 acres for well pads, 2.1 acres for well pad access roads and tie-in pipelines, 2.6 acres for the county road re-alignment, and 20 acres for the proposed compressor station. After successful reclamation of the disturbed areas, long-term disturbance is estimated at 28 acres.

Construction of the P18 397, F19 397, and D30 397 well pads and drilling of the six wells on those pads could begin in 2004 and continue in 2005. The other two well pad locations would be developed later. Re-alignment of County Road 69 would likely be done soon after the right-of-way was granted, in the fall of 2004 or the spring of 2005. The construction schedules for the trunk pipeline and the compressor station are indeterminate.

No Action Alternative: None of the proposed wells, well pads, access roads, tie-in pipelines, or the trunk pipeline would be constructed. The compressor station would not be built and the county road would not be re-aligned.

NEED FOR THE ACTION: All of the proposed or potential actions analyzed in this EA are being pursued by EnCana in order to exercise its federal mineral lease rights.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

Decision Language: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The action conforms to the decisions/pages of the plan listed above.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below.

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The project area is within a Class II Prevention of Significant Deterioration (PSD) air quality area. No Class I PSD areas are within 40 miles of the project area.

The principal air quality parameter likely to be affected by construction of well pads, roads, compressor station and pipelines is the inhalable particulate level (PM_{10} - particles ten microns or less in diameter) associated with fugitive dust. Although no monitoring data are available for the survey area, it can be surmised that the air quality is good because the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be less than 50 micrograms per cubic meter. This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM_{10} (24-hour average) of 150 $\mu g/m^3$.

The compressor station to be located at the north end of the project area is assumed to be equipped with engines rated at 8,500 horsepower at full capacity. The principal air quality parameters likely to be affected by operation of these compressor engines are ambient concentrations of nitrogen dioxide (NO_2) and carbon monoxide (CO). No data for background concentrations of these gases are available for the Piceance Basin; however, the entire State of Colorado is designated as having air quality better than the 100 $\mu g/m^3$ NAAQS for NO_2 (annual average). Similarly, Rio Blanco County is designated as "unclassifiable/attainment" for CO and is assumed to be in attainment with the 40,000 $\mu g/m^3$ (1-hour average) and 10,000 $\mu g/m^3$ (8-hour average) NAAQS for CO. (Area designations for Rio Blanco County and other areas of Colorado are listed in 40 CFR part 81.306).

Environmental Consequences of the Proposed Action: The construction of the facilities proposed for the project area – well pads, pipelines, road re-alignment, and the compressor station - would result in short term, local impacts on air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter would not exceed Colorado air quality standards on an hourly or daily basis. Following successful revegetation of the sites, airborne particulate matter should return to near pre-construction levels.

Operation of the proposed compressor is expected to generate emissions that are proportional to those estimated by BLM in Garfield County in 1999. (USDI BLM, 1999) The 8,500 horsepower engines assumed for this station represent 45 percent of the 19,000 horsepower analyzed in that study. Proportionate ambient concentrations of pollutants generated by the Dry Ridge compressor are therefore expected to be 685-715 $\mu g/m^3$ (one hour) and 208-279 $\mu g/m^3$ (eight hour) for CO and 30-36 $\mu g/m^3$ (annual) for NO_2. These levels are all far below the respective NAAQS.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement dust abatement measures as described in the APD's 13 Point Surface Use Plan.

Permitting of all regulated air pollution sources through the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, will assure compliance with all federal and state standards.

CULTURAL RESOURCES

Affected Environment: Well Pads P18 397 (E-P006), F19 397 (E-P030), D30 397 (E-P018), E-P019, E-P022 and associated access roads and pipelines: The proposed well pads and associated access roads and pipelines within the well pad inventory areas have been inventoried at the Class III (100% pedestrian) level (Bond 2004, Compliance Dated 06/22/2004). No cultural resources had previously been recorded in these areas and none were identified in the inventory.

Trunk Pipeline and Compressor Station: The northern 2.4 miles of the proposed pipeline route and compressor site were inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 08/27/2004). No cultural resources had previously been recorded in these areas and no new finds were identified in the inventory. The remainder of the route had previously been inventoried at the Class III (100% pedestrian) level for the Draft EA on the development of the Figure Four Unit (Pennefather-O'Brien 2003, Compliance Dated 01/16/2004).

County Road Re-alignment: The proposed 0.43 mile road re-alignment was inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 09/16/2004). No cultural resources had previously been recorded in these areas and no new finds were identified in the inventory.

Environmental Consequences of the Proposed Action: Construction of the proposed well pads, their associated access roads and tie-in pipelines, the compressor station, the trunk pipeline adjacent to the county road and of the county road re-alignment would not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: None

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,

- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),

- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Well pads; P18 397 (E-P006), D30 397 (E-P018), E-P019, E-P022 and their proposed access roads were inventoried for the presence of any noxious or invasive weeds on May 5 and May 8, 2004. Approximately 40 acres around each proposed well pad and its associated access roads were inventoried. A minimum radius of 700 feet around the well stake and 50 feet either side the flagged access road was inventoried.

No noxious weeds species were found on any of the well pads except at pad F19 397 (E-P030). A small infestation of houndstongue (less than 20 plants) was found on an old well pad at this site that was not re-contoured or reclaimed. The infestation is located on the fill slope on the west side of the old pad.

The proposed pipeline right-of-way from pad P18 397 (E-P006) to its tie in point in Section 9, T4S, R98W, was inventoried on May 5, May 8, and May 21, 2004. The proposed 20 acre compressor site in the NW ¼ of section 19, T3S, R97W was inventoried on August 6, 2004. No noxious weeds were found along the proposed pipeline route or on the proposed 20 acre compressor site.

Other than the small infestation of houndstongue at pad F19 397 (E-P030) and a few small occurrences of cheatgrass along County Road 69, the area surrounding the proposed actions is relatively free of invasive, non-native plant species.

Environmental Consequences of the Proposed Action: This general area of the Piceance Basin has infestations of houndstongue, musk thistle, yellow toadflax, leafy spurge, black henbane and spotted knapweed, all of which are being treated by BLM, local ranchers and others. The disturbance associated with the proposed actions could create a noxious weed problem by importing weed seed on vehicles and equipment or by having suitable conditions present (non-vegetated disturbed areas) for introduction of noxious weeds by other vectors. In addition to noxious weeds, invasive non-native species such as cheat grass could also establish on these areas. Establishment of noxious or invasive weeds would create problems through seed production in proportion to the number of plants and the duration they are reproducing. Increased seed production of noxious or invasive plants could aggressively compete with or exclude desired vegetation during reclamation. The noxious or invasive species seed production could also encourage the spread of these unwanted plants into the adjacent native plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: Eliminate any noxious plants before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer.

The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

Other mitigation included in the Vegetation section.

MIGRATORY BIRDS

Affected Environment: The sagebrush, pinyon/juniper and mountain shrub communities found within the project area support a large array of migratory birds that nest during the months of May, June and July. Bird populations associated with these communities that have a high conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) are listed in the following table. There are no specialized or narrowly endemic species known to occupy the project area.

Birds of High Conservation Priority by Habitat Association

Sagebrush	Pinyon/juniper	Mountain shrub
Brewer's sparrow Green-tailed towhee	Pinyon jay, black-throated gray warbler, Juniper titmouse, gray flycatcher, gray vireo, violet-green swallow	Blue grouse Common poorwill

Dry Ridge is a progression of habitats beginning with sagebrush flats on the north, mature pinyon/juniper and sagebrush parks through the mid-section and mountain shrub dominated by serviceberry on the southern end of the ridge.

Environmental Consequences of the Proposed Action: Construction of well pads, associated access roads, a compressor station, pipelines and a road re-alignment of County Road

69 would result in disturbance on about 93 acres of sagebrush, pinyon/juniper and mountain shrub habitat. Well pad F19 397 (E-P030) and the compressor station are located in sagebrush habitat, while the other four well pads and access roads are located within pinyon/juniper habitat. The county road re-alignment is located in mountain shrub and open bald habitat. Although the proposed actions would represent an incremental and longer term reduction in the extent of the habitat associations described, implementation of the proposed actions would have no measurable influence on the abundance or distribution of breeding migratory birds at the scale proposed. Nesting of migratory birds may be disrupted and nests could be lost should construction activities occur during the May through July period.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: The project area includes no federally-listed animal species and no habitat for such species. The special status species of concern in the project area include two Colorado BLM Sensitive Species, greater sage-grouse and northern goshawk. Additionally, other accipiters - sharp-shinned hawk and Cooper's hawk - are species of concern in the project area.

Within the Piceance Creek drainage, habitats with the greatest potential for goshawk are spruce/fir and aspen stands. On Dry Ridge, there are no significant stands of aspen, spruce or Douglas-fir, although there are occasional small pockets of Douglas-fir or individual fir trees in side draws coming off the ridge. The pockets of Douglas-fir, when associated with large mature pinyon/juniper, have very limited potential for nesting goshawk but can be particularly attractive to other accipiters (Cooper's and sharp-shinned hawk) for nesting. The well pads, compressor station, access roads and pipelines to well pads, trunk pipeline and county road re-alignment were all surveyed for potential raptor nesting habitat.

Only the southern three miles of Dry Ridge occur within the designated overall range for sage-grouse. The main access road and adjacent pipeline and well pad E-P022 occur within this area. There are no known leks on this ridge or within two miles of the ridge.

Well Pads P18 397 (E-P006), D30 397 (E-P018), E-P019, E-P022 and associated access roads and pipelines: These locations were surveyed for special status species on May 4, 19, 25, 28 and June 1, 2004. The pads and short access roads are located in mature pinyon and juniper stands. The larger and mature trees on much of Dry Ridge have suffered considerable mortality in the past as a result of insects and disease and small spot fires. Where this has occurred, the stand of larger trees is open with smaller, younger trees filling the openings. As the density of large trees on the ridge top decreases, the likelihood of accipiter nesting is expected to decline. All these well pads, access roads and the surrounding area (approximately 700' from the pad edge) were searched for evidence of raptor nesting. No evidence was noted. An active red-tailed

hawk nest was located in a pocket of Douglas-fir located in a side draw to Dry Gulch. The nest is about 0.4 miles to the southwest of well pad E-P019 (UTM 12S 0727479, 4403411).

Well pad E-P022 falls within the overall range for sage-grouse. The well site is within an older stand of pinyon/juniper which has suffered considerable mortality and has many young trees invading. The understory is tall and dense serviceberry and sagebrush. This tall, dense vegetation and isolation from more suitable habitat renders the area unsuitable for sage-grouse and offers little potential for restoration.

Well Pad F19 397 (E-P030) and Compressor Station: These two facilities, surveyed on May 4 and 19 and August 19, 2004, are located adjacent to each other in a sagebrush stand with scattered young pinyon/juniper invading the stand. There are no trees of sufficient size on this area to provide suitable accipiter nesting habitat.

This area is outside the overall range for sage-grouse with the nearest potential habitat on this ridge five miles or more to the south. No evidence of sage-grouse was noted on the well pad or compressor station locations. Although the sagebrush is generally 3 to 4 feet tall, the greatest impairment for sage-grouse is the large amount of unsuitable pinyon/juniper habitat which separates the area from the occupied habitat to the south.

Main Access Road (County Road 69) and Adjacent Pipeline: The pipeline route was surveyed at the same time as the proposed well pads were surveyed. Suitable nest trees only occur on the mid-section of the ridge as the north end is mostly sagebrush and the south end is mountain shrub. The current use of County Road 69 severely limits the possibility of raptors nesting within this corridor. As a result, the construction of the adjacent pipeline and the small amount of road re-alignment (surveyed on September 10, 2004) are not expected to impact raptor nesting habitat even though some suitable nesting trees may be removed in the central portion of the ridge.

The southern three miles of the access road and adjacent pipeline are within the overall range for sage-grouse. In this area, the ridge top is often narrow, less than ⅛ mile in width and the habitat is mostly tall dense serviceberry, unsuited for sage-grouse. A number of small patches of sagebrush that do occur along the ridge road were searched for sage-grouse sign, but none was noted. At the very southern end of Dry Ridge, approximately 0.4 miles of the county road and adjacent pipeline will be relocated to the south of the existing road. The road and pipeline will contour around a bald knob, rather than crossing the top of the knob. The ridge top and bald knob appear to be suitable sage-grouse habitat and fall within the overall range. The north side of the knob is a sagebrush type and appears to be the most suitable habitat in the area. No sage-grouse leks are known to occur within several miles of this area and no grouse sign was noted on the area.

Environmental Consequences of the Proposed Action: Well sites P18 397 (E-P006), D30 397 (E-P018), E-P019 and E-P022 all support suitable raptor nesting habitat. Construction of access roads and well pads will remove suitable nesting trees and could disrupt nesting activities on the surrounding area. Disruption of nesting could be lessened by not constructing during the nesting season, but loss of habitat on the well sites will be a long term impact.

Well site E-P022 is within the overall distribution of sage-grouse, but is currently unsuitable along with the surrounding area. The county road relocation and pipeline at the south end of Dry Ridge have the greatest potential to impact sage-grouse habitat and habitat restoration potential. The road and pipeline will remove about 5 acres of suitable habitat. This will be substantially offset by restoration of the existing roadway and by relocation of the road away from the more suitable sage-grouse habitat located on the north side of the bald knob.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Well pads P18 397 (E-P006), D30 397 (E-P018), E-P019 and E-P022 and the surrounding area provide potential raptor nesting habitat and nest sites. In order to avoid the possible destruction or disturbance of a raptor site, a re-survey for evidence of raptor nesting should be conducted prior to construction if well pad construction and drilling occur during the raptor nesting period (Feb. 1 to Aug. 15). If construction and drilling occur during the remainder of the year, no additional surveys would be required. It is the responsibility of EnCana to contact the BLM or a third party contactor to conduct these surveys prior to surface-disturbing activities.

Restoration of the county road should include ripping and seeding plant species likely to result in habitat suitable for sage-grouse. The seed mix should include western wheatgrass, green needle grass, globe mallow, sanfoin and mountain big sagebrush. Sagebrush seed should be broadcast in the late fall or winter rather than drilled.

Finding on the Public Land Health Standard for Threatened & Endangered species: The standard with regard to the goshawk is being met and will continue to be met. The majority of the project is outside the overall range for sage-grouse, but the southern portion of the project does occur within the range. The standard with regard to the greater sage-grouse is expected to be satisfied by mitigation for grouse or grouse habitat for the Eureka/Double Willow Units, to be developed by BLM and the Colorado Division of Wildlife. Greater sage-grouse mitigation developed for these units will be in addition to mitigation developed for other oil and gas development areas within the Piceance Basin.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The operator shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The currently proposed D30 397 (E-P018), F19 397 (E-P030), and P18 397 (E-P006) well pads, potential future well pads E-P019 and E-P022, compressor site, trunk pipeline, and access along County Road 69 all lie upon Dry Ridge. Dry Ridge forms the divide between Hunter Creek and Dry Gulch. Hunter Creek is tributary to Piceance Creek. Dry Gulch is tributary to Black Sulfur Creek which is tributary to Piceance Creek. Piceance Creek is a tributary of the White River which ultimately flows into the Colorado River. Water quality standards and guidance for drainages within the Lower Colorado River Basin are included in CDPHE-WQCC Regulation No. 37 (2004a).

Black Sulfur and Hunter Creeks are listed as the mainstems of Black Sulfur and Hunter Creeks from their sources to their confluences with Piceance Creek - Segment 20 of the White River. Black Sulfur and Hunter Creeks have use designations of aquatic life cold 1, recreation 2, and agriculture. The classification for White River Segment 20 is based upon the fact that the streams are ephemeral and/or intermittent. It is noted that there is an exception to Table Value Standards for iron (aquatic – chronic) in Segment 20.

The "Status of Water Quality in Colorado – 2004" (CDPHE, 2004b) was reviewed for information related to the project area drainages. White River Segment 20, including both Black Sulfur and Hunter Creeks, was noted to have fully-supporting aquatic life cold 1, not assessed recreation 2, and fully-supporting agriculture designated uses. White River Segment 20 has a Colorado integrated reporting category of 2 which is described as: "Some uses have been assessed and all uses assessed are fully supporting the designated uses. Other uses have not been assessed."

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE, 2004c and 2004d, respectively) were reviewed for information related to the project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2004 list of segments needing development of TMDLs includes one segment within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development).

Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes five White River segments that are potentially impaired – 9, 12, 13a, 21, and 22. Segment 20, including Black Sulfur and Hunter Creeks, was not listed.

Ground Water: The project area is located within the Piceance Creek structural basin. Snowmelt and rain recharge the bedrock aquifers and replenish the ground water that migrates through the Uinta and Green River Formations (Tobin, 1987). Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Information presented in Topper et al. (2003) indicates the following approximate depths to potentiometric surfaces within hydrogeologic units: upper Piceance basin aquifer 600 feet, lower Piceance basin aquifer 700 feet, and Mesaverde aquifer 400 feet (based on a surface elevation of 7,400 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are not common in the basin. In the project area the total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter. Primary hydrogeologic units within the Piceance Basin are listed in the following table.

Summary of Hydrogeologic Units					
Hydrogeologic Unit	**Thickness (ft)**	**Approx Avg Depth (ft)**	**Conductivity (ft/day)**	**Yield (gpm)**	**Transmissivity (ft^2/day)**
Upper Piceance Basin aquifer	0 – 1,400	700	<0.2 to >1.6	1 to 900	610 to 770
Lower Piceance Basin aquifer	0 – 1,870	2,800	<0.1 to >1.2	1 to 1,000	260 to 380
Mesaverde aquifer	Averages 3,000	7,700	NL	NL	NL
Abbreviations: ft – feet, approx – approximate, avg – average, gpm – gallons per minute, and NL – not listed.					

Table information from Topper et al. (2003).

A groundwater well is located approximately 2 miles southwest of the proposed D30 397 (E-P018) well pad (the Ebler Well). The well produces groundwater from the Green River Uinta Formation which is conveyed down a six-mile waterline for livestock watering. The well has a total depth of 1,083 feet. It is cemented and cased off from the surface to 885 feet, and 3/8 inch gravel pack is from 885 feet to 1,083 feet. The well showed a sustained yield of 11.66 gallons per minute.

Environmental Consequences of the Proposed Action: Surface Water: The primary potential water quality impact would be from additional sediment resulting from the proposed access road, drill pad, compressor station and pipeline construction and the road re-alignment. Removal of vegetative cover results in the potential for increased soil erosion near newly disturbed areas. Runoff-producing storm events could increase sediment loads in ephemeral channels. Depending on the soils affected, salt content in the sediment may also degrade water quality.

The magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements. Impacts would continue until mitigation has been implemented and proven to be successful. Such mitigation would include revegetating the unused portion of the well pads as soon as possible, placing gravel on areas that would not be revegetated, or placing check dams to control runoff.

Ground Water: Impact on groundwater resources is not anticipated. Shallow aquifers are protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. The objective of surface and intermediate casing is specifically to isolate shallow aquifers. Hydrofracturing used to stimulate natural gas production of the

Mesaverde Formation is anticipated to extend a maximum of 500 feet horizontally from each well bore and not at all vertically. Any groundwater produced from the Mesaverde Formation will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to surface water.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit the stormwater management plan to BLM showing how BMPs will be utilized to prevent stormwater erosion.

When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed.

All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

Vegetation or artificial stabilization of cut and fill slopes shall be provided for in the design process. Establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance shall be avoided.

Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Water quality in the stream segments within the project area meets the criteria established in the standard. With successful reclamation, the proposed and potential actions in the project area would not change this status.

FLOOD PLAINS, WETLANDS, RIPARIAN ZONES, AND ALLUVIAL VALLEYS

Affected Environment: No flood plains, wetlands, riparian zones, or alluvial valleys will be encountered with construction of the well pads and access roads for sites P18 397 (E-P006), F19 397 (E-P030), D30 397 (E-P018), E-P019, and E-P022. None will be encountered with construction of the proposed compressor site in the NW ¼ of section 19, T3S, R97W. None will be encountered with construction of a pipeline from well pad E-P006 to Section 9, T4S, R98W or with the re-alignment of the county road.

Environmental Consequences of the Proposed Action: No impacts are expected to occur on any flood plain, wetland, riparian zone, or alluvial valley from the actions proposed.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No prime and unique farmlands, wild and scenic rivers, Areas of Critical Environmental Concern or Wilderness exist within the project area. The project area was inventoried for threatened, endangered or sensitive plant species between May 5 and May 21, 2004, and no such species or their suitable habitats were found in the area. The Public Land Health Standards for wetland or riparian systems and threatened, endangered or sensitive plant species are not applicable to this action, since neither the proposed action nor the no-action alternative would have any influence on these. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The soil types in the project area occur from 6,000 to 8,900 feet in elevation. The average annual precipitation in the project area is 14 to 22 inches, the average annual temperature is 37 to 45 degrees F, and the average frost-free period is approximately 80 to 105 days. The proposed road re-alignment, pad construction, pipeline construction, and compressor site development will occur within three soil units inventoried by the Natural Resources Conservation Service (NRCS). Soil units, names, and characteristics are listed in the following table (SCS, 2004):

Summary of Project Area Soil Units

Soil Map Unit	Soil Unit Name	Slope (%)	Ecological Site	Effective Rooting Depth (in)	Runoff	Erosion Potential	Bedrock Depth (in)
43	Irigul-Parachute Complex	5 – 30	Mountain Loam	10 – 20	Medium to rapid	Slight to very high	10-40
64	Piceance fine sandy loam	5 – 15	Rolling Loam	20 – 40	Slow to medium	Moderate to high	20-40
70	Redcreek-Rentsac Complex	5 – 30	Pinion-Juniper Woodland	10 – 20	Medium	Moderate to high	10-20

All soil units have listed salinity values of less than 2 Mmhos per centimeter. None of the unit mapping indicates a fragile soil with slopes greater than 35 percent, the criteria that would trigger implementation of the Controlled Surface Use stipulation attached to lease C-65559. In fact, all of the sites governed by that lease (all but site E-P019) are outside the stipulated area.

Environmental Consequences of the Proposed Action: The type of construction activity in the proposed actions removes surface cover and disturbs soils, thus potentially increasing soil erosion, and reducing soil health and productivity. Actions considered in this analysis and their potential to produce soil disturbance are as follows:

1. The only new road construction would be re-routing the county road at the knob located in Sections 9, 15, and 16, T4S, R98W for 0.43 miles, disturbing 2.6 acres.
2. The proposed trunk line construction along County Road 69 has a total length of 38,155 feet (7.2 miles) and a disturbance width of 60 feet with a total disturbance of 53 acres.
3. Total disturbance for the five well pads and associated access roads and pipelines would be 18.1 acres.
4. The compressor facility could require surface disturbance of up to 20 acres.

The table below shows the calculated disturbance by soil mapping unit for each of the elements of the proposed action.

	Soil Mapping Unit			**Total Area (acres)**
Facility	43	64	70	
Well Pads				
Acres	7.1	7.1	3.9	18.1
Compressor Facility				
Acres		20.0		20.0
Trunk Pipeline				
Feet	24,691	7,900	5,550	
Acres	34.0	10.9	7.7	52.6
County Road 69 Re-alignment				
Feet	2,270			
Acres	2.6			2.6
Total Area				
Acres	38.0	36.2	10.3	93.3

The total area disturbed over all soil units is 93.3 acres. After successful reclamation, an estimated 28 acres would remain in an unvegetated state for the life of the project (30-40 years) or longer.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion.

When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Finding on the Public Land Health Standard for upland soils: Soils within the project area meet the criteria established in the standard for upland soils. With successful reclamation, the proposed action would not change this status.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Well Pad P18 397 (E-P006)**:** The well pad and access road occur in a Wyoming sagebrush and pinyon/juniper mix plant community just east of County Road 69. The well pad is within a pinyon/juniper woodland plant community. Pinyon tree ages are estimated at 50 to 150 years with a few larger pinyon and junipers to the east of the location. This is a fairly young stand of trees. The short access road is in a Wyoming sagebrush plant community with considerable encroachment from pinyon pine (tree ages less than 100 years). The ecological site for the sagebrush community is a rolling loam that has a late-seral plant community. Annual air dry vegetation production is estimated at 500 to 600 lbs/acre for both communities.

Well Pad F19 397 (E-P030): The well pad and access road occur in a Wyoming sagebrush plant community next to County Road 69. About 2 acres of the site is on an old oil or gas well that was never re-contoured. Vegetation on the old well site is mostly crested wheatgrass and rubber rabbitbrush. The ecological site for this area is a rolling loam that has a mid to late-seral plant community. Annual air dry vegetation production is estimated at 500 to 600 lbs/acre.

Well Pad D30 397 (E-P018): The well pad and access road occur in a pinyon/juniper woodland community next to County Road 69. This site has a late-seral community. This is an older stand of trees with the larger trees over 250 years. About one-half of the trees in the stand are younger than 100 years. Annual air dry vegetation production is estimated at 500 to 600 lbs/acre.

Well Pad E-P019: The well pad and access road occur in a mix of pinyon and upland shrubs just west of County Road 69. The well pad and short access road are in a mountain shrub plant community with scattered pinyon. There are many insect-damaged dead pinyon trees in this area. The ecological site for this area is a loamy slopes that has a late-seral community. Annual air dry vegetation production is estimated at 700-800 lbs/acre.

Well Pad E-P022: The well pad and access road occur in a mix of pinyon and upland shrubs next to County Road 69. The well pad and short access road are in a mountain shrub plant community with scattered pinyon. There are also many dead pinyon trees in this area. The ecological site for

this area is a loamy slope that has a late-seral community. Annual air dry vegetation production is estimated at 700-800 lbs/acre.

Proposed 20 Acre Compressor Site: The compressor site lies within a Wyoming sagebrush park with scattered young pinyon trees encroaching into the park. The ecological site for the sagebrush community is a rolling loam that has a mid to late-seral plant community. Annual air dry vegetation production is estimated at 500 to 600 lbs/acre.

The following table shows the estimated cover of the major plant species at each site within the project area.

Plant Species (% Cover)	Well Pad E-P006	Well Pad E-P018	Well Pad E-P019	Well Pad E-P022	Well Pad E-P030	Compressor Site
Pinyon	10-30 %	40-60%	10-15%	5-10%	------	< 1 %
Sagebrush	20-30 %	10-15%	15-20%	25-30%	25-30%	25-30 %
Serviceberry	< 1 %	10-15%	15-20%	15-20%	< 1 %	< 1 %
Bitterbrush	< 1 %	2-5%	2-5%	2-5%	< 1 %	< 1 %
Rabbitbrush	< 1 %	< 1 %	< 1 %	< 1 %	5-10%	< 1 %
Native grasses	10-30 %	5-10%	15-20%	20-25%	20-25%	25-30 %
Native forbs	5-10 %	5-10%	5-10%	5-10%	5-10%	10-15 %
Bare ground	20-30 %	25-30%	20-25%	15-20%	20-25%	25-30 %

Proposed Pipeline and County Road Re-alignment: The vegetation within the proposed pipeline route between pads P18 397 (E-P006) and F19 397 (E-P030) is a Wyoming sagebrush/grass plant community with plant cover values similar to the two pads. Vegetation along the route from pads F19 397 (E-P030) to E-P022 is a pinyon/juniper woodland with plant cover values similar to well pad D30 397 (E-P018). Vegetation along the route from pad E-P022 to the pipeline's terminus and at the location of the county road re-alignment is in a mountain shrub plant community with plant cover values similar to that at pad E-P022.

Environmental Consequences of the Proposed Action: Construction of the five well pads, the compressor site and the trunk pipeline and the re-alignment of County Road 69 would remove all vegetation on disturbed areas. An estimated disturbance of 18 acres could occur at the five well pad locations. Up to another 20 acres of disturbance could occur at the compressor site. The construction of the pipeline and the re-alignment of the county road could result in another 55 acres of disturbance. Total disturbance within the project area could reach 93 acres. About 65 acres of the disturbance would be short term (3-5 years) if successfully reclaimed. An estimated 28 acres could remain non-vegetated for a considerable length of time depending upon the success and life expectancy of the project in this area.

The longer the disturbance remains non-vegetated, the greater the chance for invasion of weedy plants onto the site. Some of those weedy species can create problems in future reclamation efforts and some may be totally non-desirable (refer to the discussion of noxious and invasive non-native species above).

A portion of each well pad and its access roads could be reclaimed during the gas production phase. Half or more of the original disturbance could be short term and returned to the

production of desirable perennial vegetation. The remaining disturbance would remain non-vegetated for the life of the project.

The greatest long term impact on vegetation, aside from the long term use of the roads, well pads and compressor site (the non-vegetated portion), would be the loss of the pinyon and native shrub components of the plant communities impacted. Sagebrush would likely return to any reclaimed areas in approximately 20 years. However, the pinyon, serviceberry and bitterbrush are not likely to return to the disturbance for at least 50 years. Attempts in the past to re-establish the shrub species have had only marginal success.

Environmental Consequences of the No Action Alternative: None

Mitigation: All disturbed areas for the pipeline and roads with the exception of the road travel surface would be reclaimed within the first growing season or prior to the first full growing season following disturbance with the following seed mix.

Native Seed Mix #2	
Species	**Seeding Rate (Pure Live Seed)***
Western wheatgrass (Rosanna) Indian ricegrass (Rimrock) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Green needlegrass (Lodorm)	2.0 lbs/ac 2.0 lbs/ac 1.0 lbs/ac 2.0 lbs/ac 1.0 lbs/ac
Globemallow or Utah sweetvetch	0.5 lbs/ac
Antelope bitterbrush**	1.0 lbs/ac
* Seeding rate for drill seeding. Double the rate for broadcast/harrow seeding ** Antelope bitterbrush added to this mix to mitigate loss of native shrubs from disturbed area.	

Successful re-vegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species which occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

Areas of the well pads and the compressor site not used during any production phase, including cut and fill slopes, would be contoured to about a 5:1 slope, have topsoil redistributed and re-vegetated with Native Seed Mixture #2 described above prior to the first full growing season following completion of drilling.

Final reclamation of roads, well pads, and the compressor site following abandonment would be reclaimed with above seed mix.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* The plant communities within the area of the proposed action have an appropriate age structure and diversity of species which meet the criteria established in the standard for vegetation. With successful reclamation, the proposed action would not change this status.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There is no aquatic wildlife within the project area.

Environmental Consequences of the Proposed Action: None.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Because there is no aquatic wildlife within the project area, the standard is not applicable.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Dry Ridge is a north to south running ridge which extends for approximately 13 miles from Piceance Creek on the north to the Roan Divide on the south. The ridge lies between Dry Gulch on the west and Hunter Creek on the east and varies in width from two miles at its northern end to a mile or less at its southern end. The top of Dry Ridge provides a seasonal migration corridor for deer and elk, as it provides both food and cover, while the adjacent drainage bottoms are more open. Deer and elk sign is evident all along Dry Ridge in all habitat types. Generally there is a very good mix of browse species for deer and elk in the mountain shrub and pinyon/juniper habitats, especially at well pads D30 397 (E-P018), E-P019 and E-P022. All but the upper one mile of Dry Ridge is normal deer winter range. The small amount of deer severe winter range at the north end of Dry Ridge is outside the project area and will not be affected. All of Dry Ridge is elk winter range and all but the southern tip and northern three miles are considered an elk winter concentration area. The majority of the project falls within the elk winter concentration area including all the well pads and the compressor station.

Environmental Consequences of the Proposed Action: The re-alignment of 0.43 mile of the existing county road, construction of the trunk pipeline adjacent to the road, construction of the compressor station and construction of the access roads and well pads would result in a loss of 93 acres of habitat for big game and other wildlife species. Only a portion of the habitat would be lost long term as revegetation of the pipeline and portions of the well pads would take place within several years. However, habitat lost through construction of the compressor station and maintaining portions of the well pads as non-vegetated until production ceases would be a long-term loss, about 28 acres. Increases in disturbance during pipeline and compressor station construction and well development will occur to wildlife within a ¼ mile-wide corridor. Disturbance along the main access road as far south as well site E-P022 would be most significant. This is a distance of approximately seven miles and would impact approximately 1,150 acres. Since the road is already in place, the impact won't be disturbance of new areas, but more frequent disturbance of areas already subject to vehicles and human activity. As this is a county road open to the public, the impacts of increased use following the development phase

will be minimal. In the long term, the use of short access roads and ORV use may create greater wildlife disturbance.

Environmental Consequences of the No Action Alternative: No additional disturbance of wintering big game associated with commercial oil and gas development, or net loss of habitat to normal and severe winter range would occur at this time and this place.

Mitigation: An existing two-track road crosses the proposed compressor station site. This road dead ends to the north and could be physically reclaimed and seeded. Eliminating this road would offset some of the disturbance impacts associated with the development of access roads and well sites to occur on Dry Ridge.

Much of Dry Ridge supports habitat with very good shrub components for wintering deer and elk. Re-vegetation of well sites D30 397 (E-P018), E-P019, and E-P022 and the main pipeline corridor should include a good mix of browse species, including bitterbrush, 4-wing salt brush, serviceberry and forb species.

The area cleared and fenced for the compressor station should be limited to that needed to locate facilities and not include the entire 20 acre site until such time as required.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): This project would not jeopardize the viability of any animal population. It would have no significant consequence on terrestrial habitat condition, utility, or function, nor have any discernible effect on animal abundance or distribution at any landscape scale. The public land health standard will thus be met.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those checked in the last column will be addressed further in this EA.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management			X
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise			X
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics			X

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The principal access route into the project area is County Road 69 which proceeds south from the Piceance Creek Road (County Road 5) for about 13 miles to a point on the south end of the ridge where a re-alignment of the road is proposed for 0.43 mile to lessen the grade (Figure 2). The road is in generally good condition and no improvement other than the re-alignment would be necessary for oil and gas development traffic.

The county road is also one of the major access routes to development activities in the Figure Four Unit south of the Dry Ridge project area. With the acceleration of oil and gas development traffic in the Figure Four Unit, traffic has increased markedly. Well drilling equipment, pipeline construction equipment and gas production traffic travels along the road throughout the day.

The entire proposed action is within an area where motorized vehicle traffic is limited to existing roads from October 1 to April 30 each year. Cross-country motorized vehicle travel is allowed from May 1 to September 30 as long as no resource damage occurs as a result.

Environmental Consequences of the Proposed Action: Construction and operation of six gas wells at the proposed P38 397 (E-P006), F19 397 (E-P030), and D30 397(E-P018) sites would cause a temporary increase in traffic up the road for a period of two or four months at each site - perhaps up to 14 months overall if only one drill rig were used. After that, well service traffic to the three sites would be regular but of low intensity. The same pattern would be true at each of the other two potential well sites and the compressor station -- a period of increased traffic for as long as four months followed by lower intensity traffic for service of the facilities. Construction of the trunk pipeline adjacent to the road would increase traffic along the road and would also at times disrupt the flow of traffic, as pipeline construction equipment and materials moved on and off the line. Simultaneous construction of any project features would intensify the use of the road.

New access roads to the five well pads would have a minimal impact on access to public lands since the pads are near the existing county road.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Implement road construction and maintenance standards and procedures described in the APD's 13 Point Surface Use Plan.

FIRE MANAGEMENT

Affected Environment: The actions proposed all occur within an area that has minimal constraints on the use of wildfires to achieve public land health objectives. Nearly all the plant communities in the general vicinity of the project area are mature with considerable fuel loads. Most of these communities are rejuvenated by fire to maintain healthy, diverse plant communities.

A BLM remote automated weather station (RAWS) is located on the west side of County Road 69 within the proposed pipeline route. The RAWS station is used by BLM fire personnel. The station is located in the NW¼SW¼ of section 19, T3S, R97W (GPS Data Format Deg NAD27 39.77134, 108.32848).

Environmental Consequences of the Proposed Action: Development of oil and gas facilities in this area could restrict BLM's ability to use wildfires to achieve public land health objectives for the plant communities in and around these facilities. Any naturally occurring fires in this area would likely be put out while they are small. Large areas of mature vegetation would continue a downward decline in diversity of plant species, especially herbaceous species.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement the fire avoidance and prevention measures described in the APD's 13 Point Surface Use Plan.

During construction of the pipeline, the RAWS station will be permanently placed on the other side of the road from the current location in a similar location i.e. vegetation clearing, aspect and fenced to prevent livestock/big game damage at the applicant's expense. Movement of the RAWS must be coordinated with BLM fire personnel.

FOREST MANAGEMENT

Affected Environment: The well pad and access road D30-397, contains pinyon/juniper woodlands. For the most part these stands contain old growth characteristics. These woodlands are valuable locally as a source of firewood and posts for fence construction.

Environmental Consequences of the Proposed Action: The proposed project would remove approximately 18.85 acres of pinyon/juniper woodland. The permit holder is required to purchase this woodland material and dispose of it as described in mitigation. Following reclamation, these woodlands would be colonized by pinyon and junipers within 30 years and would develop old growth characteristics between 150 and 300 years.

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: From the White River ROD/RMP of 1997, Appendix B, 7. All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a. Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b. Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c. Chipped and scattered.

GEOLOGY AND MINERALS

Affected Environment: The surficial geology in the project area is the shallow dipping Tertiary Uinta Formation within the Green River Formation (Tweto, 1979). The Green River Formation is comprised of organic-rich shaley limestone, shale, marlstone, and sandstone, and is rich in fish, insect and plant fossils. The Green River Formation contains very substantial amounts of "oil shale" which is actually a kerogen-rich marlstone (Foutz, 1994). Other mineral resources in the project include gas, coal, and nahcolite. EnCana's targeted zone in all the wells is in the Mesaverde. During drilling, potential water, oil shale, coal, oil and gas zones would be encountered from the surface to the targeted zone. This area is identified in the ROD/RMP as available for underground oil shale leasing and development.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and, if properly done, would prevent the migration of gas, water, and oil between formations. The coal zones located in the Mesaverde will also be isolated during this procedure. These zones are at a depth greater than 3,000 feet and the coal is not recoverable by conventional methods. Development of these wells would deplete the hydrocarbon resources in the targeted formation. Depending on the number of additional wells, future development of underground mining of the oil shale in and around existing wells may be limited.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

NOISE

Affected Environment: County Road 69 is the primary source of man-made noise within the Dry Ridge project area. Traffic up and down the road to oil and gas facilities in the Figure Four Unit produces varying degrees of noise throughout the day, with very little noise during the night. There are no residences within the project area. Those people subject to noise generated in the project area are, for the most part, employees of the oil and gas companies. Ranchers and hunters, in season, are also subject to noise generated in the area.

Environmental Consequences of the Proposed Action: Well pad construction and well drilling would generate noise for two to four months at each site. The Colorado Oil and Gas Commission (COGCC) has established a noise limit of 55 decibels (dBA) as the limit for oil and

gas facilities in residential areas. (This can be compared to average highway noise of 60 dBA at 100 feet.) The 55 dBA limit would be reached at 1,500 feet from a well pad construction site and at 800 feet from and operating drill rig, although the rig would be operating 24 hours a day for the period of drilling. (USDI BLM, 2004) Local wind and terrain effects could cause that distance to vary considerably in different parts of the project area and at different times.

When the compressor station begins operation, it would generate noise round the clock for the life of the facility. The level of noise produced would depend on the number and size of compressor engines used and the muffling technology employed. Assuming a four-engine compressor station were in operation in the Dry Ridge project area, the 55 dBA level would be produced at a distance of 200 feet. The night-time COGCC limit (50 dBA) would be produced at 340 feet. Local wind and terrain effects could cause that distance to vary considerably in different parts of the project area and at different times.

Environmental Consequences of the No Action Alternative: None

Mitigation: At the discretion of the Authorized Officer, the operator will take measures to reduce noise produced by the compressor station to levels as low as the noise limits described by COGCC for residential areas.

PALEONTOLOGY

Affected Environment: The proposed well pads, road re-alignment, compressor and pipeline construction all are located in an area mapped as the Uinta Formation (Tweto 1979). BLM has classified the Uinta as a Category I formation, meaning that it is a known producer of scientifically significant fossils.

The proposed reroute of RBC 69 in T 4 S, R 98 W, Sections 9, 10, 15 and 16 has been inventoried at the Class III (100% pedestrian) level for fossil resources (Bilbey and Hall 2004, Compliance Dated 10/05/2004) with no new fossil localities located along the reroute.

Environmental Consequences of the Proposed Action: Since the action proposed in the project area would all occur within the Uinta formation, there is potential for impacting fossil resources if it is necessary to excavate into the underlying bedrock formation to construct the well pads, including the reserve/blooie pit, to construct or upgrade the access roads, to install the pipelines, or to build the compressor station.

Environmental Consequences of the No Action Alternative: None

Mitigation: All exposed rock outcrops in the project area shall be examined by an approved paleontologist with a report detailing the results of the inventory and any mitigation recommendation shall be submitted to the BLM prior to the initiation of construction on any of the well pads, compressor site or road/pipeline right-of-way. A monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to

bury pipelines, level well pads or excavate reserve/blooie pits, or to construct any project features.

The portion of RBC 69 that is to be rerouted in T 4 S, R 98 W, Sections 9, 10, 15 and 16 shall be spot checked during construction to determine if fossil resources are present in the excavated area of the reroute.

Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the authorized officer.

RANGELAND MANAGEMENT

Affected Environment: The actions proposed would impact the Piceance Mountain and Fawn Creek grazing allotments. The grazing permit for this part of the Piceance Mountain allotment is held by Pat Johnson. The grazing permit for the Fawn Creek allotment is held by Bill Brennan. Both allotments are grazed by cattle May through November. The project area within both allotments is grazed May through mid-June.

Proposed well pad P18 397 (E-P006) would lie within the Piceance Mountain allotment; well pads E-P019 and F19 397 (E-P030) would lie within the Fawn Creek allotment; and well pads D30 397 (E-P018) and E-P022 would lie on the boundary between both allotments. The proposed compressor site and pipeline route are within the Fawn Creek allotment.

Rangeland Improvements: Well pads D30 397 (E-P018) and E-P022 lie on the boundary fence between the two allotments. The access road to well pad P18 397 (E-P006) would cross the fence separating the two allotments.

The pipeline route would cross a waterline in the NW¼SW¼ of section 19, T3S, R97W (GPS Data Format Deg NAD27 Lat 39.77134, Long 108.32848). The waterline originates from a water storage tank that is on the east side of County Road 69 and supplies a watering trough about 100 feet on the west side of the road.

A small pit reservoir (Dry Gulch Pit #2 on BLM Project Marker) is located within 20 feet of the most northern corner marker of the proposed 20 acre compressor site (GPS Data Format Deg NAD27 Lat 39.77997, Long 108.32584).

Environmental Consequences of the Proposed Action: The actions proposed could result in a forage loss to livestock of about 16 animal unit months (AUM). An AUM equates to the forage needs of a mature cow with calf for one month. About 1 to 2 AUMs of this loss would occur on the Piceance Mountain allotment. The other 14 to 15 AUMs would occur on the Fawn Creek allotment.

About half of this loss would be only short term until successful reclamation of disturbed areas has occurred. Reclamation of the pipeline and unused portions of the roads and well pads would restore 6 to 8 AUMs of available forage within 3 to 5 years. Long term loss of forage to livestock of about 8 AUMs could occur for the life of the project. Most of this loss would on the Fawn Creek allotment from forage lost at the compressor site and four of the five well pads.

Complete reclamation of the roads, pipeline and well pads would probably provide a small long term increase above the present forage available to cattle.

The expected forage losses would have a negative impact on the two livestock operations affected. The forage loss of 15 AUMs on the Fawn Creek allotment would likely require the permittee to reduce the number of cattle grazed in this area by 10 head short term and 5 head long term. The permittee would likely have to reduce his herd size or find replacement forage. Finding replacement forage for the May to mid-June period would be unlikely in this area.

The forage loss of 2 AUMs on the Piceance Mountain allotment would probably not require a reduction in the number of cattle grazed in this area. The loss could likely be absorbed within the forage base allocated for livestock use.

The actions proposed could interfere with proper functioning of the range improvements near the proposal. The fences and watering facilities are necessary for control of cattle to achieve grazing objectives on the two grazing allotments. Damage to fences or watering facilities or gates left open interfere with control of cattle and, ultimately, proper utilization of the rangeland resource. These impacts would be greatest during the construction and drilling phases.

The boundary fence between the two allotments would be affected by well pads P18 397 (E-P006), D30 397 (E-P018) and E-P022. The access road to well pad P18 397 would cross the boundary fence. Well pads D30 397 and E-P022 would lie on the boundary fence between the two allotments. Construction activities could eliminate the effectiveness of the boundary fence between the two allotments. Control of livestock provided by the fence could be lost. Cattle from the two livestock operations could mix requiring added labor costs to gather and separate.

The pipeline route would cross a waterline in the NW¼SW¼ of section 19, T3S, R97W (GPS Data Format Deg NAD27 Lat 39.77134, Long 108.32848). Construction activities could damage or interfere with the use of this improvement.

A small pit reservoir (Dry Gulch Pit #2) is located within 20 feet of the most northern corner marker of the proposed 20 acre compressor site (GPS Data Format Deg NAD27 Lat 39.77997, Long 108.32584). The existing two-track road passing through the 20 acre site provides most of the runoff water supplying the pit. Construction of the compressor site would likely reduce or eliminate the runoff reaching this improvement.

Environmental Consequences of the No Action Alternative: None

Mitigation: Any crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications with a wire or metal gate adjacent to it. The effectiveness of the fence must be maintained at all times during construction and operation.

Well pads D30397 and E- P022 bisect the Piceance Mountain/ Fawn Creek allotment boundary fence. If these locations cannot be moved so that they are on one side of the fence or the other, then new allotment boundary fence segment(s) should be reconstructed around the edge of these pads to BLM specifications, including H braces, steel posts and wire spacing.

Construction of the trunk line will involve crossing three pasture fences. Proper fence bracing to BLM standards must be in place when going through the fence so as to maintain proper wire tensions. The effectiveness of these fences must be maintained at all times during construction.

Construction of the trunk pipeline will avoid disturbance or damage to the watering facilities located in the NW ¼ SE ¼ section 11 T 4 S, R 97 W (latitude 39.71525, longitude 108.24123 (NAD27)).

REALTY AUTHORIZATIONS

Affected Environment: The main access route for activities within the project area would be County Road 69, from Black Sulphur Creek to the southern end of the proposed pipeline, approximately 13 miles. The right-of way across BLM is held by Rio Blanco County. The trunk pipeline proposed to be constructed next to the road from the P18 397 (E-P006) well pad to the tie-in would cross unit boundaries. The right-of-way will have a permanent width of 30 foot with a 30 foot extra width for work space to revert back to a permanent 30 foot width after construction. The right-of-way dimensions will be 30 foot wide with a length of 38,155 foot encompassing 26.5 acres more or less (an additional 26.5 acres will be disturbed during construction). The right-of-way will have a 30 year term ending December 31, 2033. The compressor station located at the north end of the project area, although located in the Eureka Unit, would serve a gathering system that extends into the Figure Four Unit.

Environmental Consequences of the Proposed Action: Since the main access road is a county road, no right-of-way would be required. However, the re-alignment of the road would require a right-of-way and Rio Blanco County has applied for one, serialized as COC68202. The compressor and the trunkline serve wells in both the Eureka and the Figure Four Units and a right-of-way would be required. Applications have been received for those facilities and they have been combined and serialized as COC68052.

Environmental Consequences of the No Action Alternative: None.

Mitigation: The Conditions of Approval for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply. The extra work width of 30 feet will be reclaimed and recontoured immediately after construction has been completed and weather permitting.

A "Notice to Proceed" stipulation will be included in the ROW grant for the pipelines indicating that construction of the pipelines will only be permitted to begin when the wells are producing.

A "Notice to Proceed" stipulation will be included in the ROW grant for the compressor station that will only allow construction of the facility when a site plan and a plan of development have been provided to BLM and approved by the AO.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The Dry Ridge project area and the surrounding Hunter Creek and Dry Gulch drainages most closely resemble a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). A natural appearing environment with few administrative controls typically characterizes an SPM recreation setting; there is low interaction between users but evidence of other users may be present. An SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment with challenge and risk.

Because of the public access provided by County Road 69, the Dry Ridge project area is the sight of more intensive hunting activity than other areas in the Eureka/Double Willow area where public access is limited. There are a number of hunting camps located along the road. Activity is most likely highest in the later seasons.

Environmental Consequences of the Proposed Action: The public would lose approximately 28 acres of dispersed recreation potential during the life of the project (30-40 years) because of well pad and compressor station construction. The public would be less likely to recreate in the vicinity of these facilities and would be dispersed elsewhere. If drilling or pad construction coincides with hunting seasons (September through November), it would most likely disrupt the experience sought by those recreationists.

Traffic along the county road is increasing, as development of the Figure Four Unit gets under way. Development of the natural gas production facilities in the Dry Ridge project area would add to the traffic level. The relatively high levels of traffic increase the likelihood of human interactions and the sights and sounds associated with the human environment. Eventually, the construction of the five proposed well pads and the compressor station, together with the greater volume of traffic on the county road would diminish the sense of isolation and change the nature of the recreation experience.

Environmental Consequences of the No Action Alternative: None of the loss of dispersed recreation potential would occur and there would be and no impact on hunting recreationists.

Mitigation: None.

SOCIOECONOMICS

Affected Environment: The proposed actions within the project area would be developed in Rio Blanco County but construction and drilling resources would also be drawn from Garfield County and Mesa County. Rio Blanco County had a 2002 population of 6,063, almost unchanged from the 1990 level of 6,051. The major communities in the county are Meeker (2,272 population in 2002) and Rangely (2,108). The county underwent a substantial economic and demographic growth in the late 1970's and early 1980's as major energy companies attempted to develop oil shale as a national energy fuel source. After a decline in jobs and population from the boom levels, the number of jobs and people in the county has remained static. Currently, the government sector makes up almost a third of all jobs in the county. The traditional farming and ranching sector has been supplemented in the last few years by a growing number of jobs in the oil and gas extraction industry as drilling activity has expanded. Many of the resources for development of the oil and gas resource come out of Garfield County or Mesa County and locate in Rio Blanco County on only a temporary basis.

Other than natural gas exploration and development, livestock grazing is the only other economic activity that currently takes place within the project area. No licensed hunting and outfitting services are provided in the project area.

Environmental Consequences of the Proposed Action: The employment required for construction of the facilities in the Dry Ridge project area would most likely not be new employment but workers already available in the area. Some may very well reside in other western Colorado counties. Motels, restaurants, grocery stores, gas stations, vehicle and equipment repair shops may all experience additional activity. The facilities developed by the proposed actions would expand the local property tax base and the gas produced by the proposed wells would generate increased federal royalties. Half of those royalties would be returned to the State of Colorado and to jurisdiction within Colorado, including Rio Blanco County. This net effect of these impacts would be considered beneficial but low.

One of the two grazing permittees in the project area may be negatively affected if the reduction in forage caused by the surface disturbance of the proposed actions required a consequent reduction in livestock numbers or the purchase of replacement forage.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The entire project area is on public lands administered by BLM that have received a VRM Class III designation. The management goal for this class is to

partially retain the existing character of the landscape. The change brought about by activities on lands with VRM III designation may be evident. The visual contrast may be moderate but should not dominate the natural landscape character. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

County Road 69 provides public access to the entire project area and the opportunity for recreation use, and view of the landscape, is consequently higher than in other portions of the Eureka/Double Willow area. However, visual sensitivity remains low because the road is not a through road and recreation use increases only seasonally, during the later hunting seasons. Additionally, distance and intervening terrain shield the area from the most highly traveled route in the area, the Piceance Creek Road (CR 5). Local ranchers and a growing number of oil and gas company employees and contractors make up most of the potential viewing public.

Environmental Consequences of the Proposed Action: The five proposed well pads, with their associated access roads and pipelines, the 0.43 mile re-alignment of the county road, the construction of the pipeline adjacent to the county road and the construction of a 20 acre compressor facility would alter the landscape character. Removal of vegetation and recontouring of the natural surface during construction would introduce linear features into the landscape and offer contrasting soil and vegetation colors and patterns that had not previously been there. The location of some of the well pads on prominent sites on the ridgeline magnifies the effect in the middle-background. This change would lessen in the long-term as exposed areas were reclaimed and bare soil was not so extensively evident.

Additionally, above-ground natural gas production facilities such as well heads, metering sheds, condensate tanks, and compressor facilities would introduce man-made industrial facilities that would draw attention due to their size, color and shape. The use of natural paint tones would reduce the visual impact of the facilities.

Viewed from the middle-background, the changes in the overall landscape of the project area would appear to be moderate and would not dominate the natural character of the landscape since they are dispersed over a fairly large area. The character of the landscape would be partially retained, meeting the standards of the VRM III classification. The scale of the landscape alteration created by the 20-acre compressor facility and the immediately adjacent 4-acre well pad is such that the two facilities would dominate the landscape in the foreground. This impact would be moderated by limiting the surface and vegetation disturbance to that actually required for the facility and maintaining a vegetative buffer around the compressor station.

Environmental Consequences of the No Action Alternative: None

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

Disturbed areas on well pads not needed for production equipment shall be restored as nearly as possible to their original contours and seeded. Cut and fill slopes shall be stabilized with vegetation, matting or equivalent measures to prevent erosion and reduce the color contrast.

The surface disturbance at the compressor station should be limited to that necessary for constructing and locating compressor buildings and related equipment.

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area PRMP/FEIS. Current development, including the actions proposed in the Dry Ridge project area, has not exceeded the foreseeable development analyzed in the PRMP/FEIS.

The road up Dry Ridge from the Piceance Creek Road (CR 5) is one of the primary access routes into the Figure Four Unit. As development of the proposed action coincides with the that in the Figure Four Unit, the traffic on County Road 69 can be expected to grow, increasing temporarily with each new well drilled and then, as new wells come into production, facility maintenance and well service needs would insure that relatively high levels of traffic on the road are sustained over the life of the proposed actions and the Figure Four project (30-40 years). The sustained high levels of traffic would mean that secondary impacts on wildlife along the ridge and on the quality of the recreation experience available there would also endure for the life of the project.

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PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Project Team		
Name	**Title**	**Area of Responsibility**
BLM Oversight		
Keith Whitaker	Natural Resource Specialist	Project Lead; Visual Resources

Glenn Klingler	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife; Wetlands and Riparian Zones
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern; Threatened and Endangered Plant Species
Chris Ham	Outdoor Recreation Planner	Recreation; Wilderness; Access and Transportation
Mark Hafkenschiel	Rangeland Management Specialist	Vegetation; Invasive, Non-Native Species; Rangeland Management
Michael Selle	Archeologist	Cultural and Paleontological Resources
Caroline Hollowed	Hydrologist	Air Quality; Water Quality, Surface and Ground; Hydrology and Water Rights; and Soils
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid
WestWater Engineering (Third Party Contractor)		
Dan McWilliams	Senior Engineer	Air Quality and Soils
Steve Moore	Environmental Scientist	Areas of Critical Environmental Concern; Cultural Resources; Paleontological Resources; Wastes, Hazardous or Solid; Access and Transportation; Wilderness; Realty Authorizations; Recreation; and Visual Resources
Rusty Roberts	Range Conservationist	Threatened and Endangered Plant Species; Invasive, Non-Native Species; Wetlands and Riparian Zones; Vegetation; Fire Management; Rangeland Management; and Wild Horses
Doug McVean	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife, Terrestrial and Aquatic
Kim Kaal	Senior Geologist	Water Quality, Surface and Ground; Hydrology and Water Rights; Geology and Minerals
Mike Klish	Environmental Scientist	Forest Management

Finding of No Significant Impact/Decision Record (FONSI/DR)

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment, analyzing the environmental effects of the proposed actions, has been reviewed. The approved mitigation measures (attached to the APDs as Conditions of Approval and to the right-of-way grants as stipulations) for the proposed actions - wells 8816B and 8815C at location P18 397; wells 8806C and 8803B at location F19 397; wells 8806C and 8803B at location F19 397; potentially two wells each at locations E-P019 and E-P022; the trunk pipeline and compressor station, COC68052; and a 0.43 mile re-alignment of Rio Blanco County Road 69, COC68202 - result in a finding of no significant impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the above proposed actions.

WestWater Engineering, an environmental consulting firm, with the guidance, participation, and independent evaluation of the Bureau of Land Management (BLM) prepared this document. The BLM, in accordance with 40 CFR 1506.5 (a) and (c), is in agreement with the findings of the analysis and approves and takes responsibility for the scope and content of this document.

DECISION/RATIONALE: It is my decision to approve the development of wells 8816B and 8815C at location P18 397; wells 8806C and 8803B at location F19 397; wells 8806C and 8803B at location F19 397; a right-of-way grant for a 0.43 mile re-alignment of Rio Blanco County Road 69; a right-of-way grant for a 7.2 mile natural gas pipeline adjacent to Rio Blanco County Road 69; and the potential development of two wells each located at sites E-P019 and E-P022 with the mitigation listed below. It is also my decision to accept the analysis of the compressor station with the understanding that before any construction is allowed the facility will have a site plan and plan of development provided and reviewed by BLM and approved by the Authorized Officer. The proposed actions are in concert with the objectives of the White River ROD/RMP in that they would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval and to the right-of-way grants as stipulations.

MITIGATION MEASURES: 1. Implement dust abatement measures as described in the APD's 13 Point Surface Use Plan.

2. Permitting of all regulated air pollution sources through the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, will assure compliance with all federal and state standards.

3. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the Authorized Officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),

- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

5. Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods (Pesticide Use Proposal) approved in advance by the AO. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator.

6. The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

7. Well pads P18 397 (E-P006), D30 397 (E-P018), E-P019 and E-P022 and surrounding areas provide potential raptor nesting habitat and nest sites. In order to avoid the possible destruction or disturbance of a raptor site, a re-survey for evidence of raptor nesting should be conducted prior to construction if well pad construction and drilling occur during the raptor nesting period (Feb. 1 to Aug. 15). If construction and drilling occur during the remainder of the year, no additional surveys would be required.

8. Restoration of the county road section by-passed by the re-alignment should include ripping and seeding plant species likely to result in habitat suitable for sage-grouse. The seed mix should

include western wheatgrass, green needle grass, globe mallow, sanfoin and mountain big sagebrush. Sagebrush seed should be broadcast in the late fall or winter rather than drilled. (See Mitigation 21.)

9. The proposed actions in the project area represent an exploration phase. Should the Eureka/Double Willow Units go to a production phase, a comprehensive mitigation plan for greater sage-grouse and other potentially affected species will be developed for the units at that time.

10. The operator is required to collect and properly dispose of any solid wastes generated by the proposed actions.

11. Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit the stormwater management plan to BLM showing how BMPs will be utilized to prevent stormwater erosion.

12. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed. (RMP 4)

13. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years. (RMP 6)

14. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO. (RMP 8)

15. Vegetation or artificial stabilization of cut and fill slopes shall be provided for in the design process. Establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance shall be avoided. (RMP 24)

16. Eliminate undesirable berms that retard normal surface runoff. (RMP 35)

17. Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

18. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, according to the following standard or as directed by the AO. (RMP 96)

Grade	Spacing
2 %	Every 200 feet
2-4 %	Every 100 feet

4-5 %	Every 75 feet
5+ %	Every 50 feet

19. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion. (RMP 97)

20. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff. (RMP 98)

21. All disturbed areas for the pipeline and roads, with the exception of the road travel surface, would be reclaimed within the first growing season or prior to the first full growing season following disturbance with native seed mix #2 (see below). Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the AO.

Native Seed Mix #2	
Species	**Seeding Rate (Pure Live Seed)***
Western wheatgrass (Rosanna) Indian ricegrass (Rimrock) Bluebunch wheatgrass (Whitmar) Thickspike wheatgrass (Critana) Green needlegrass (Lodorm)	2.0 lbs/ac 2.0 lbs/ac 1.0 lbs/ac 2.0 lbs/ac 1.0 lbs/ac
Globemallow or Utah sweetvetch	0.5 lbs/ac
Antelope bitterbrush**	1.0 lbs/ac
Four Wing Saltbrush**	1.0 lbs/ac
Utah Serviceberry**	1.0 lbs/ac
Mountain Big Sagebrush***	1.0 lbs/ac
* Seeding rate for drill seeding. Double the rate for broadcast/harrow seeding ** These shrub species are being added to this mix to mitigate loss of native shrubs from disturbed area on big game wintering areas (refer to mitigation measure #22). ***Sagebrush seed is the only shrub species to be seeded on the reclaimed portion of the realignment of County Road 69 (refer to Mitigation 8).	

22. Areas of the well pads not used during any production phase, including cut and fill slopes, would be contoured to a slope of about 5:1, and would have topsoil redistributed and revegetated with Native Seed Mix #2 prior to the first full growing season following completion of drilling. Final reclamation of all disturbed project sites following abandonment will use the same seed mix.

23. An existing two-track road crosses the proposed compressor station site. This road dead ends to the north and could be physically reclaimed and seeded. Eliminating this road would offset some of the disturbance impacts associated with the development of access roads and well sites to occur on Dry Ridge.

24. Revegetation of well sites D30 397 (E-P018), E-P019, and E-P022 and the main pipeline corridor should include a good mix of browse species, including bitterbrush, four wing saltbrush, serviceberry and forb species. (See Mitigation 21.)

25. The area cleared and fenced for the compressor station shall be limited to that necessary to locate facilities and not include the entire 20 acre site.

26. Implement road construction and maintenance standards and procedures described in the APD's 13 Point Surface Use Plan.

27. Implement the fire avoidance and prevention measures described in the APD's 13 Point Surface Use Plan.

28. During construction of the pipeline, the RAWS station will be either permanently placed in another location or temporarily relocated to another location at the direction of the AO.

29. At the discretion of the AO, the operator will take measures to reduce noise produced by the compressor station to levels as low as the noise limits described by COGCC for residential areas.

30. All exposed rock outcrops in the project area shall be examined by an approved paleontologist with a report detailing the results of the inventory and any mitigation recommendation shall be submitted to the BLM prior to the initiation of construction on any of the well pads, compressor site or road/pipeline right-of-way. A paleontology monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury the pipeline, level the well pad, excavate the reserve/blooie pit or to construct any project features.

31. Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the AO.

32. Any crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications.

33. Proper fence bracing to BLM standards must be in place when going through the fence so as to maintain proper wire tensions. The effectiveness of these fences must be maintained at all times during construction.

34. Construction of the trunk pipeline will avoid disturbance or damage to the watering facilities located in the NW ¼ SE ¼ section 11 T 4 S, R 97 W (latitude 39.71525, longitude 108.24123 (NAD27)).

35. A "Notice to Proceed" stipulation will be included in the ROW grant for the pipelines indicating that construction of the pipelines will only be permitted to begin when the wells are producing.

36. A "Notice to Proceed" stipulation will be included in the ROW grant for the compressor station that will only allow construction of the facility when a site plan and a plan of development have been provided to BLM and approved by the AO.

37. The extra work width of 30 feet will be reclaimed and recontoured immediately after construction has been completed and weather permitting.

38. The "Conditions of Approval" for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

39. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

40. Disturbed areas on well pads not needed for production equipment shall be restored as nearly as possible to their original contours and seeded. Cut and fill slopes shall be stabilized with vegetation, matting or equivalent measures to prevent erosion and reduce the color contrast.

39. From the White River ROD/RMP of 1997, Appendix B, 7: All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by one of the following methods:

a. Trees must be cut before being dozed off the area of disturbance. Trees shall be cut into four-foot lengths, down to four inches in diameter and placed along the edge of the disturbance.

b. Purchased trees may be removed from federal land for resale or private use. Limbs may be scattered off the area of disturbance but not dozed off.

c. Chipped and scattered.

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NAME OF ENVIRONMENTAL COORDINATOR: Caroline P. Holbrook 10/25/04

SIGNATURE OF AUTHORIZED OFFICIAL: Kent C. Walter
Field Manager

DATE SIGNED: 10/25/04

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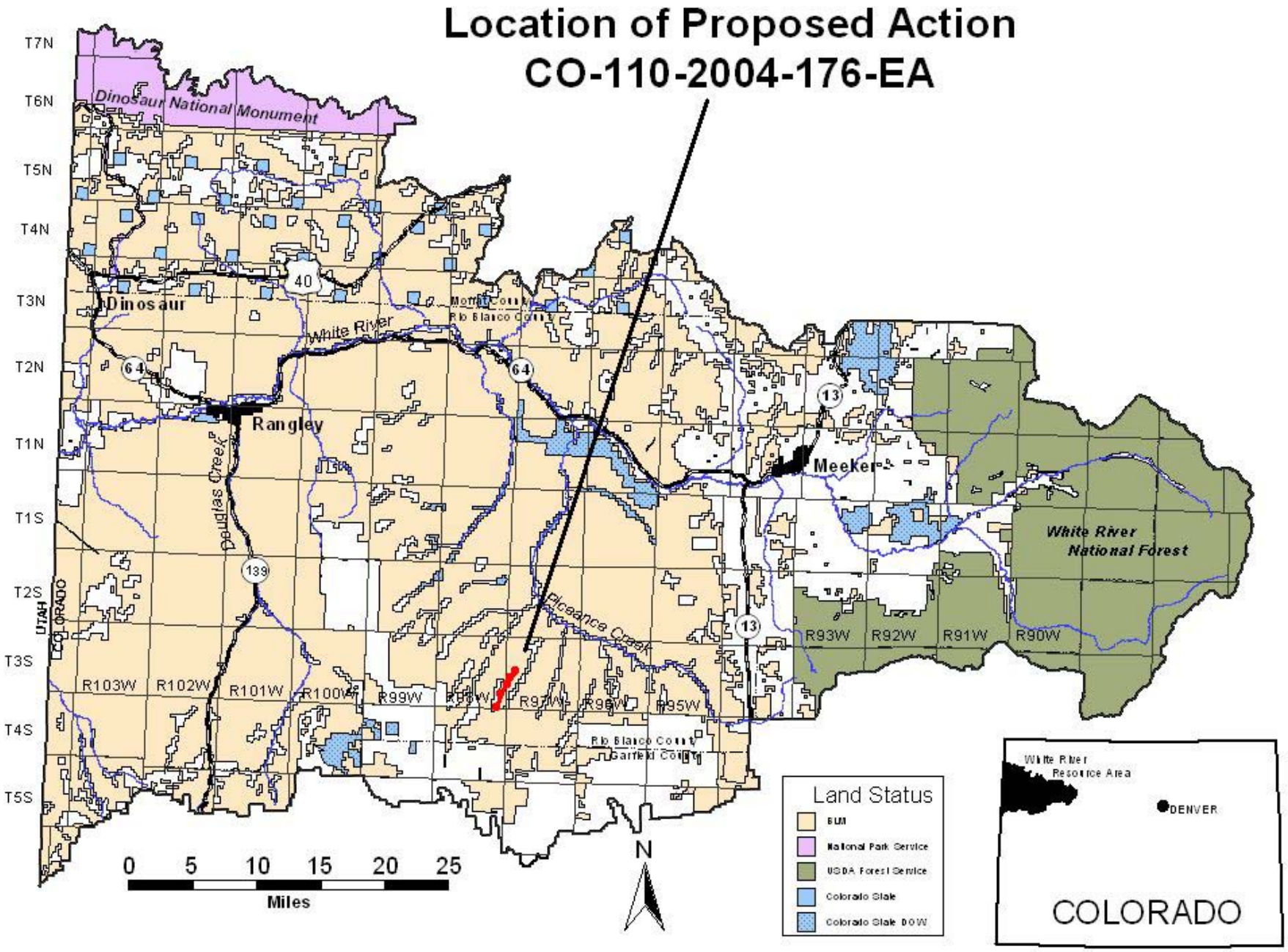
ATTACHMENTS: Figure 1-Location Map of the Proposed Action
Figure 2-Map of the East Hunter Creek Project Area


Location of Proposed Action
CO-110-2004-176-EA
T7N
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
Dinosaur National Monument
Dinosaur
Rangley
Meeker
White River
Douglas Creek
Piceance Creek
Moffat County
Rio Blanco County
Garfield County
UTAH
COLORADO
40
64
139
13
White River National Forest
R103W
R102W
R101W
R100W
R99W
R98W
R97W
R96W
R95W
R93W
R92W
R91W
R90W
0 5 10 15 20 25
Miles
N
Land Status
BLM
National Park Service
USDA Forest Service
Colorado State
Colorado State DOW
White River Resource Area
DENVER
COLORADO

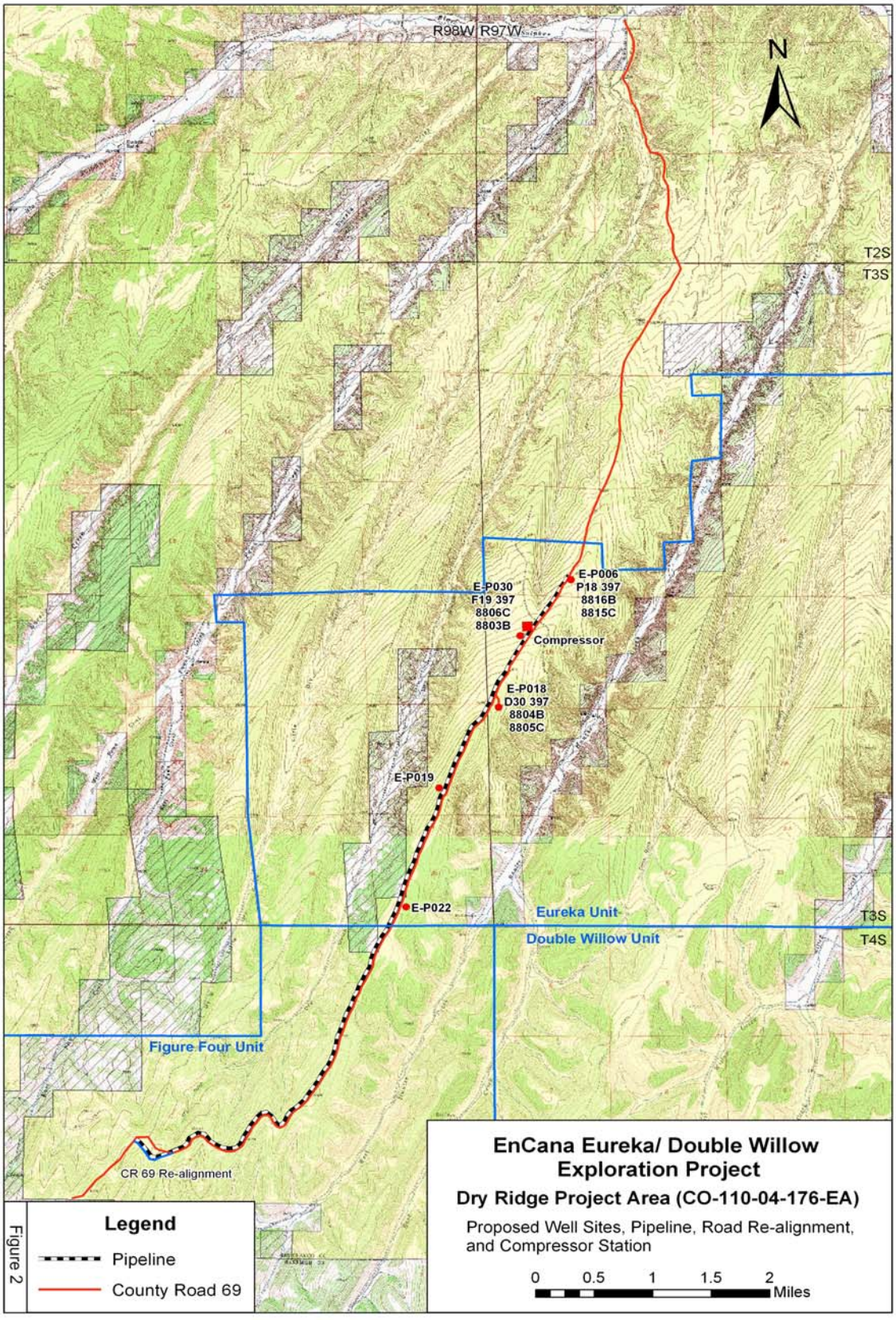

R98W R97W
N
T2S
T3S
E-P030
F19 397
8806C
8803B
E-P006
P18 397
8816B
8815C
Compressor
E-P018
D30 397
8804B
8805C
E-P019
E-P022
Eureka Unit
Double Willow Unit
T3S
T4S
Figure Four Unit
CR 69 Re-alignment
Legend
Pipeline
County Road 69
EnCana Eureka/ Double Willow
Exploration Project
Dry Ridge Project Area (CO-110-04-176-EA)
Proposed Well Sites, Pipeline, Road Re-alignment,
and Compressor Station
0 0.5 1 1.5 2
Miles

Figure 2